

REMARKS

I. This supplemental amendment makes the previous amendment (paper no. 17) responsive at least because of the addition of new claim 34.

New claim 34 contains no new matter and is based on claim 16 but without the last three lines in question discussed below.

Additionally the language: "phase-conjugating mirror" has been added (the underlined language) and also the language: "for reflecting light transmitted through the specimen back into itself exactly with respect to direction and phase front" has been added to the language from claim 16. These amendments are supported at page 8, lines 14-17. No new matter is added.

These features are not taught or suggested by any of the cited references. Therefore, new claim 34 should be allowable.

II. Claim 16 is pending and should be examined because it does not include non-elected matter as alleged by the USPTO in paper No. 18.

The USPTO required the applicants to elect what is shown in either Figure 1 or 2 for initial prosecution. Claim 16 was held to be generic.

Applicants elected Fig. 2 (with traverse) which shows a confocal laser scanning microscope, i.e., with pinhole diaphragms 15 and 16. Fig. 1 shows a field transmitting microscope, i.e., no pinholes, so it is not a confocal microscope. Therefore, this confocal or "pin hole" difference is the difference between Figures 1 and 2 which the USPTO believed required restriction of the claims.

Both Figures 1 and 2 disclose microscopes which use fluorescent radiation from the sample as described in the specification (see page 8 of the specification, line 26 "fluorescent radiation" for example). It is also important to note that in reference to Figure 2, applicants have developed microscopes which use lasers as light sources for fluorescent microscopy which is a relatively new technology compared to the older technology of using xenon or mercury lamps to generate fluorescence from a specimen (see page 8).

The USPTO made the restriction requirement final in paper No. 11 and stated that claims 16-20, 23-26, 28 and 31 were to be examined.

In response, applicant filed an amendment on July 23, 2002 in which claim 16 was amended to incorporate a feature found at least at page 8 of the specification. Page 8 describes the elected Figure 2. The amendment specifically stated that the claim amendment was supported at page 8 of the specification. The Examiner did not agree that the amendment was directed to Figure 2 and instead believes that the last three lines of the amended claim 16 are directed to Figure 1 (non-elected). The Examiner is respectfully incorrect.

Therefore, applicants respectfully point out again the following reasons from page 8 of the specification which show that the Examiner is incorrect because the amendment of independent claim 16 from July 23, 2002 is in fact described at page 8 of the specification in reference to elected Figure 2.

The Examiner is respectfully incorrect:

Amended claim 16 claims:

16. (Once amended) A microscope comprising:  
two objectives between which a light-transmitting specimen [may be] is arranged;  
said objectives having at least [approximately] substantially identical optical characteristics; and  
at least one of said two objectives being followed by a mirror for reflecting light transmitted through the specimen back into itself exactly wherein the reflector is placed in the pupil plane of said at least one objective;  
a detector for receiving reflected specimen fluorescent radiation from the light transmitting specimen;  
wherein a transmitted excitation beam and a fluorescence signal are reflected but the fluorescence signal is reimaged on the detector while the transmitted excitation beam is reflected back into itself exactly with respect to direction and phase front.

The "last three lines" in dispute are above.

Applicant acknowledges that it is correct that in Figure 1 (non-elected) there is a blocking filter 10 in front of the eyepiece which is described at page 7 as "a blocking filter 10

passes only the fluorescent light which is emitted by the specimen and which is to be evaluated."

However, simply because blocking filter 10 is not present in Figure 2 does not mean that a similar function is not performed by beam splitter 18 in Figure 2 to reflect only fluorescent light wavelengths to the detector, and to pass laser light. In fact, that is the case. In Figure 2, beam splitter 8, reflects fluorescent light to the detector while the illumination light from the laser is free to travel through the beam splitter 8 in both directions.

In support of claim 16, as amended, page 8 also states in relevant part that:

"A mirror 23 is arranged inside the reflecting device 22 following objective 21 and can be constructed as a phase-conjugating or adaptive mirror. With a mirror of this kind (as was already shown with reference to the field-transmitting system), the laser light transmitted from the specimen 19 is reflected back into itself exactly with respect to direction and phase front." (page 8, lines 14-17).

"It is achieved in an advantageous manner that by appropriate actuation of the actuating elements the curvature of the mirror surface is automatically adjusted such that the detector 17 can receive a fluorescent radiation of maximum intensity proceeding from the specimen 19." (page 8, lines 24-27).

Therefore, for the reasons stated above, applicant respectfully disagrees with the Examiner's assertion that claim 16 added features from the non-elected invention of Fig. 1, because it is not true. Therefore, applicant respectfully asserts that the amendment filed on July 23, 2002 was properly responsive to the rejections.

Respectfully submitted,

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